

REMARKS

Applicants respectfully request consideration of the subject application as amended herein. This Amendment is submitted in response to an Office Action mailed on August 9, 2002. In this Amendment, claims 1, 9, 13, 19, 24 and 29 have been amended.

The Examiner rejected claims 1-3, 5, 7-9, 11 and 13-28 under 35 U.S.C. § 103(a) as being unpatentable over Fan, et al. (Segmentation and Classification of Multimedia Document, IEEE Workshop, pages 416-430) in view of Nakagawa (U.S. Patent No. 5,819,295). Claims 4 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fan, et al., in view of Nakagawa as applied to claim 1 above, and further in view of Morita, et al., (U.S. Patent No. 5,832,470). Claims 6 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fan, et al., in view of Nakagawa as applied to claims 1 and 9 above and further in view of Ho, et al., (Decision Combination in Multiple Classifier Systems, IEEE Transactions on Pattern Analysis and Machine Intelligence). Claims 1-3, 5, 7-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonacopoulos, et al. (Segmentation and Classification of Document Images, IEEE), in view of Nakagawa. Claims 4 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Antonacopoulos, in view of Nakagawa as applied to claim 1 above and further in view of Morita, et al. Claims 6 and 12 were rejected under 35 U.S.C. 103(a) as being upatentable over Antonacopoulos, in view of Nakagawa as applied to claims 1 and 9 above, and further in view of Tim Ho, et al. Claims 29-32 were rejected as being unpatentable over Mahoney (U.S. Patent No. 5,889,886) in view of Nakagawa, et al.

Fan discloses a system for segmenting and classifying multimedia documents. The system segments the document into several blocks, with each block representing one type of media. A feature-based classification algorithm is then employed to recognize each segmented block. Once it is determined whether the segmented block is text, image or graphic, a compression technique that is the most efficient for this type of media is used, thus achieving the maximum compressing ratio for the document. As a result, the time required for transmitting the document and the space required for storing a document are reduced.

With respect to claim 1, Fan does not teach or suggest at least storing a document in one or more directories within a new document directory structure using a classification of the document and a document classification profile associated with the new directory structure, wherein the new directory structure mirrors a pre-existing directory structure and the new directory structure's classification profile is defined based on prior user placement of documents within the pre-existing document directory structure, as does the presently claimed invention. As described in the Specification, the present patent application is directed to automatically storing a document "in the one or more directories (or folders) of a document hierarchy in which the document would most likely be stored by a user if the document were placed there manually by the user.

Determination of the most likely directories is based on an analysis of previously stored documents stored by a user in those and other directories" (Specification, page 7). Fan is instead directed to segmenting a document into several blocks and classifying each block into a type of media (Fan, page 421). Fan does not teach or suggest storing a document a directory within a new document directory structure mirroring a pre-existing document directory structure using the new document directory structure's classification profile that

is defined based on user prior placement of documents in the pre-existing document directory structure. Thus, Fan lacks at least the features of the present invention that are included in the following language of claim 1:

...storing the electronic document in one or more directories within a first directory structure based on the classification of the document and a document classification profile associated with the first directory structure,

wherein the first directory structure mirrors a second directory structure, and the document classification profile is defined based on prior placement of documents within the second directory structure by a user.

Similar language is also included in independent claims 9, 13, 19, 24 and 29. Thus, the present invention as claimed in claims 1, 9, 13, 19, 24 and 29, and their corresponding dependent claims is patentable over Fan.

Nakagawa does not help Fan. Nakagawa discloses a document storing and managing system in which documents are stored in folders according to classifications. The system manages versions of documents stored in each folder and maintains a correspondence relation between a version of the folder and a version of each electronic document included in the folder. A user can specify a version of a folder to request retrieval of related documents in each folder as a unit of operation, move documents in old versions to another storage place collectively, or delete documents in old versions collectively.

Similarly to Fan, Nakagawa does not teach or suggest at least storing a document in one or more directories within a new document directory structure using a classification of the document and a document classification profile associated with the new directory structure, wherein the new directory structure mirrors a pre-existing directory structure and the new directory structure's classification profile is defined based

on user's prior placement of documents within the pre-existing document directory structure, as does the presently claimed invention. In Nakagawa, a document is stored in a folder based on a document type (e.g., a plan document or a design document) and a folder association with certain document types. However, even assuming as suggested by the Examiner that the document type corresponds to "a classification of the document" of the presently claimed invention and the folder association with certain document type corresponds to "a document classification profile" of the presently claimed invention, the folder association with certain document types in Nakagawa is not defined by a prior user placement of documents in this and other folders, as required by the presently claimed invention. Thus, Nakagawa lacks at least the same features that are missing from Fan.

Furthermore, each of the additional references cited by the Examiner that include Ho, Antonacopoulos, Morita and Mahoney do not teach or suggest at least the features of the presently claimed invention that are lacking in both Fan and Nakagawa.

Accordingly, the presently claimed invention is patentable over the references cited by the Examiner, taken alone or in combination. Accordingly, Applicants respectfully submit that Applicants' invention as claimed in independent claims claims 1, 9, 13, 19, 24 and 29, and their corresponding dependent claims is not rendered obvious by the above references, and respectfully request the withdrawal of the rejection under 35 U.S.C. § 103(a).

In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Applicants respectfully request reconsideration of the application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Marina Portnova at (408) 720-8300.


Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Marina Portnova
Attorney for Applicant
Registration No. 45,750

Customer No. 008791
12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300

VERSION OF CLAIMS WITH MARKINGS:

1. (Amended) A method for document classification comprising:

analyzing textual content and graphical content of a previously unclassified electronic document to determine a textual profile and a graphical profile of the electronic document;

generating a classification of the document based on the textual profile and the graphical profile; and

storing the electronic document in one or more directories within a first directory structure based on the classification of the document and a document classification profile associated with the first directory structure,

wherein the first directory structure mirrors a second directory structure, and the document classification profile is defined based on prior placement of documents within [according to a classification approach of a user with respect to] the second directory structure by a user.

9. (Amended) A software product including a machine-readable medium having stored thereon sequences of instructions, which, when executed by a processor, cause the processor to:

analyze textual content and graphical content of a previously unclassified electronic document to determine a textual profile and a graphical profile of the electronic document;

generate a classification of the document based on the textual profile and the graphical profile; and

store the electronic document in one or more directories within a first directory structure based on the classification of the document and a document classification profile associated with the first directory structure,

wherein the first directory structure mirrors a second directory structure, and the document classification profile is defined based on prior placement of documents within [according to a classification approach of a user with respect to] the second directory structure by a user.

13. (Amended) A method for document classification comprising:

analyzing documents in a pre-existing document directory structure to determine a document classification profile of the pre-existing document directory structure, the document classification profile of the pre-existing document directory structure being based on prior placement of documents within [reflecting a classification approach of a user with respect to] the pre-existing document directory structure by a user;

generating a mirror directory structure based on the pre-existing document directory structure;

receiving a previously unclassified electronic document;

analyzing textual content and graphical content of the electronic document to determine a textual profile and a graphical profile of the electronic document; and

placing the electronic document in the mirror directory structure based on the document classification profile of the pre-existing document directory structure, the textual profile of the document, and the graphical profile of the document to resemble the classification approach of the user.

19. (Amended) A computer-readable medium having stored thereon sequences of instructions which, when executed by a processor, cause the processor to:

- analyze a pre-existing document directory structure to determine a document classification profile of the pre-existing document directory structure, the document classification profile of the pre-existing document directory structure being based on prior placement of documents within [reflecting a classification approach of a user with respect to] the pre-existing document directory structure by a user;
- generate a mirror directory structure based on the pre-existing document directory structure;
- receive a previously unclassified electronic document;
- analyze textual content and graphical content of the electronic document to determine a textual profile and a graphical profile of entire electronic document; and
- place the electronic document in the mirror directory structure based on the document classification profile of the pre-existing document directory structure, the textual profile of the document, and the graphical profile of the document to resemble the classification approach of the user.

24. (Amended) An apparatus comprising:

- means for analyzing a pre-existing document directory structure to determine document classification profile of the pre-existing document directory structure, the document classification profile of the pre-existing document directory structure being based on prior placement of documents within [reflecting a classification approach of a user with respect to] the pre-existing document directory structure by a user;

means for generating a mirror directory structure based on the pre-existing document directory structure;

means for receiving a previously unclassified electronic document;

means for analyzing textual content and graphical content of the electronic document to determine a textual profile and a graphical profile of the electronic document; and

means for placing the electronic document in the mirror directory structure based on the document classification profile of the pre-existing document directory structure, the textual profile of the document, and the graphical profile of the document to resemble the classification approach of the user.

29. (Amended) A document processing system comprising:

a document scanning device;

a document storage device coupled to the document scanning device, wherein the document storage device is organized as a document directory structure having multiple directories, and further wherein the document storage device has a mirror directory structure having multiple directories organized based on the document directory structure; and

a processor coupled to the document scanning device and to the document storage device, wherein the processor is to analyze content of a document scanned by the document scanning device, to determine a directory in the mirror directory structure, in which the document will be placed, based on the analysis of document content and a document classification profile of the document directory structure, the document classification profile being defined based on prior placement of documents within

[according to a classification approach of a user with respect to] the document directory structure by a user, and to store the document in the directory in the mirror directory structure.